

WHAT IS CLAIMED IS:

1. A rotation detecting device having a magnetic moving body coupled to an object of detection, a magnet disposed facing the magnetic moving body, and a magneto-electric converter device made up of a plurality of magneto-resistance segments disposed at a predetermined pitch in a rotation direction of the magnetic moving body, changes in impressed magnetic field strength accompanying rotation of the magnetic moving body being detected by the magneto-electric converter device to detect the rotation direction of the magnetic moving body, wherein the magneto-electric converter device comprises at least six segments disposed at a predetermined pitch in a predetermined rotation direction of the magnetic moving body symmetrically about a centerline of the magnet perpendicular to the rotation direction of the magnetic moving body and these include at least two pairs of segments having their pitch centers disposed symmetrically about the centerline of the magnet and forming first and second bridge circuits for producing outputs along with rotation of the magnetic moving body and at least one pair of segments having its pitch center on the centerline of the magnet and forming a third bridge circuit for producing an output along with rotation of the magnetic moving body, and the rotation direction of the magnetic moving body is detected on the basis of a combination of these bridge circuit outputs.

2. A rotation detecting device according to claim 1, comprising a signal processing circuit part for generating two signals having a phase difference of $1/4$ period on the basis of the differential output of the first and second bridge circuits and the output of the third bridge circuit and converting these signals into a rectangular wave signal by comparing them with a predetermined level.

3. A rotation detecting device according to claim 1, wherein a GMR device is used as the magneto-electric converter device.

4. A rotation detecting device according to claim 1, wherein the magneto-electric converter device comprises six magneto-resistance segments and of these two are formed nesting in the form of a toothcomb on the centerline of the magnet.

5. A rotation detecting device according to claim 1, wherein the magneto-electric converter device comprises six magneto-resistance segments formed at a predetermined pitch.

6. A rotation detecting device according to claim 4, wherein of the six magneto-resistance segments the first and third in a predetermined rotation direction of the magnetic moving body form the first bridge circuit and the fourth and sixth form the second bridge circuit and the second and fifth form the third bridge circuit.

7. A rotation detecting device according to claim 5, wherein of the six magneto-resistance segments the first and

fourth in a predetermined rotation direction of the magnetic moving body form the first bridge circuit and the third and sixth form the second bridge circuit and the second and fifth form the third bridge circuit.

8. A rotation detecting device according to claim 1, wherein the magnet is disposed so as to made perpendicular its magnetization direction to the rotational axis direction of the magnetic moving body and the magneto-electric converter device is disposed between the magnet and the magnetic moving body so that the magneto-resistance segments are perpendicular to the magnetization direction of the magnet.